

## **STATEMENT OF WORK FOR STUDENT SERVICES CONTRACT**

### **1. Project Description**

EPA is developing projects to investigate the relationship between human exposure to environmental chemicals and biological markers (biomarkers). Biomarkers are tools that can potentially be used to elucidate relationships between xenobiotic exposure and adverse health outcomes. The EPA is interested in interpreting biomarker data to identify risk factors or human activities that can result in high-end body burdens and increased health risk. For example, the US Center for Disease Control (CDC), EPA and other scientific organizations are currently (and historically) obtaining data on a variety of biomarkers in the blood and urine of the US population, but very few analyses of the data have been performed to determine their relationship to exposure/human activities. EPA is also interested in using biomarkers as a potential evaluatory tool for their human exposure model outputs. Ultimately, the use of biomarkers of exposure, effect, and susceptibility may provide a level of cohesion to cumulative risk assessments, particularly with regard to multiple chemical exposure.

### **2. Description of Student Services**

The student will work within a multi-disciplinary research team, but will be directly mentored by Dr. Stephen Graham, a principle investigator (PI) of Exposure Modeling Research Branch's human exposure modeling research program. The student will provide technical support for research projects focusing on biomarkers of exposure and their potential use in understanding cumulative risk. The different tasks include, but are not limited to:

- a) Conducting literature/internet searches and reviewing scientific literature.
- b) The collection, processing, and compiling of data or other information into databases/spreadsheets using a variety of Windows-based software (e.g., Microsoft Excel/Word/Access, WordPerfect, EndNote, etc.)
- c) Conducting descriptive statistical analyses (i.e., mean, standard deviation, minimum, maximum, median, etc.)
- d) Operating human exposure models such as the Stochastic Human Exposure and Dose Simulation (SHEDS) and/or the Air Pollutant Exposure (APEX) models.
- e) Performing other general duties necessary to carry out research such as model evaluation and quality assurance associated with using newly collected or extant data.

The student(s) shall perform tasks related to one or more of these areas in support of the Exposure Modeling Research Branch's (EMRB's) human exposure modeling research program. The student will perform duties, as requested, according to specifications and instructions provided by their mentor. Where appropriate, the student will maintain careful and accurate records in designated laboratory notebooks. These notebooks, and all other data produced under this order will be the property of EPA.

### **3. Required Expertise, Skills, Education and/or Experience:**

Eligible students will have graduated from high school, college, or university within 24 months of the closing date of the contract announcement or currently be a student in good standing enrolled in a degree program at a recognized educational institution. For this

position, students must have completed at least 2 years of study at a college or university (or completed 48 credit hours). The student(s) should have training in biological principles, chemistry, biochemistry, statistics, and/or toxicology. Preference will be for those students containing knowledge of various biochemical techniques, training/experience in metabolism/biotransformation of endogenous/exogenous substances, and/or experience using/developing exposure models.

**4. Description of Working Conditions**

Work will be performed in an office environment, primarily computer data processing activities. The student(s) may enter the building only during business hours or when a project member is present.

**5. Required Background Investigation and Suitability Determination**

Students under contract are required to undergo a background check and check of the Federal Bureau of Investigation (FBI) fingerprint files and a suitability determination by the Environmental Protection Agency. Students awarded a contract will have to complete a Standard Form 85 (SF-85) "Questionnaire for Non-Sensitive Positions" and SF-87 "Fingerprint Charts". All completed forms will be submitted to the ORD. Fingerprints will either be taken at the ORD duty station (upon reporting to work) or students will be notified to have their fingerprints taken at their local police department. If a background check reveals information that indicates the student represents a risk to the interests of the EPA and national security, the contract may be terminated.

**6. Duration and Compensation**

The student(s) will be paid on an hourly basis with the wage dependent on the designated minimum experience (\$12.30/hour). The anticipated start date for this position is mid-July, 2004. It is estimated that 800 total hours will be needed for this effort. This effort must be completed no later than late December 2004. Employment may be offered on a full (40 hours/week) or part-time (approximately 20 hrs/week) basis. Selection of one or of two students will be dependent on the availability (full or part-time) of the most highly qualified applicant, and on the number of qualified applications received. Applicants should indicate their availability for the July - December period (full or part-time).

**7. Taxes**

The student is responsible for paying all Federal, State or local income taxes required as a result of income received under this order.

**8. Principle Duty Station**

Office of Research and Development  
National Exposure Research Laboratory  
Human Exposure and Atmospheric Sciences Division  
Exposure Modeling Research Branch  
Research Triangle Park, NC